

REMARKS/ARGUMENTS

Re-examination and favorable reconsideration in light of the above amendments and the following comments are respectfully requested.

Claims 15, 16, and 18 - 28 are pending in the application. Currently, all claims stand rejected.

By the present amendment, claims 15, 23, and 24 have been amended and claim 16 has been cancelled without prejudice.

In the office action mailed August 22, 2008, claims 15 and 16 were rejected under 35 U.S.C. 112, second paragraph as being indefinite; claims 15, 18 - 21, 23 - 25, and 27 were rejected under 35 U.S.C. 103(a) as being unpatentable over W001/62594 to Demole in view of U.S. Patent No. 3,088,698 to Ongaro; claim 16 was rejected under 35 U.S.C. 103(a) as being unpatentable over Demole in view of Ongaro and U.S. Patent No. 6,666,159 to Larson; and claims 22, 26, and 28 were rejected under 35 U.S.C. 103(a) as being unpatentable over Demole in view of Ongaro and further in view of U.S. Patent No. 2,941,764 to Lee.

The foregoing rejections are traversed by the instant response.

With regard to the rejection of claim 16, all rejections are moot in view of the cancellation of the claim.

With regard to the rejection of claim 15 on indefiniteness grounds, it is submitted that the claim is definite in view of the amendments to the claim. The Examiner is hereby requested to withdraw the rejection.

Claim 15 as amended herein is directed to a payload launching system comprising a cable, an end portion of said cable being adapted for releasably coupling with a rocket, a rotary member adapted for rotation on an axis and drive means for disengageably engaging with the rotary member so as to

rotate the rotary member on the axis, the rotary member being provided with a surface for receiving a portion of the cable remote from the rocket, the surface having a curved profile with a radial dimension which increases progressively from said axis in an arcuate direction of said axis, and means for engaging a portion of said cable remote from the rocket with the rotary member, while said rotary member is rotating, so that the portion of said cable remote from the rocket locates on said surface, while an end portion of said cable remote from the rocket is restrained at a location on the rotary member adjacent to a centre of the rotary member, and transferring means between the cable and the rocket, said transferring means being adapted to transfer the pulling force from the cable to said rocket, and the pulling force of the cable being applied to the rocket at a plurality of points located on the rocket, and at least one of said transferring means transferring the pulling force to the rocket at a point located on the rocket away from a base of the rocket.

As admitted by the Examiner, the primary reference to Demole does not disclose the pulling force of the cable being applied at a plurality of points on a rocket. The Examiner has averred that Figures 1 to 4 of Ongaro teach a rocket launching system wherein the load from the cable is spread out over multiple areas over the rocket (2) through a transferring means (26) but it is submitted that this is not the case. In Ongaro, the missile (2) is placed in the catapult tower (4) so that protruding sections (62) rest on the flanges (32) of the lifting pads (26) in the manner shown in Figure 4 (see col. 3, lines 20 -23). As stated at col. 2, lines 49 - 52, when a downward force is exerted on the cable (30), the lifting pad (26) will be lifted or moved towards its uppermost position. The lifting pad (26)

is clamped to a cable (22) which is arranged to be driven by the cable (30) and the cable (30), after passing over pulleys (40) and (42), is fixedly attached to the annular tank (44) (see col. 2, lines 64 - 70). In order to launch a missile (2) from the catapult tower (4), the tank (44) is raised to the top of the tower (see col. 3, lines 19 - 20). The tank is then filled with fluid until its weight is greater than that of the missile. When it is desired to launch the missile, the tank (44) is released and the force of gravity causes it to drop. The cable (30) is therefore hauled upwardly to cause the lifting pads (26) to move upwardly. The tank (44) accelerates rapidly due to the force of gravity and this accelerating force is substantially completely transmitted through the cable (30) and the lifting pad (26) to the missile (see col. 3, lines 29 - 42). Thus, contrary to the Examiner's view, Ongaro does not disclose launching a rocket with a cable system which distributes the pull of the cable over multiple points on the rocket. In Ongaro, the means for transferring the pull of the cable to the rocket consist of lifting pads (26) on which projections at the rear or base of the rocket rest. The lifting pads are not attached to any part of the rocket.

In claim 15, on the other hand, at least one of the transferring means transfers the pulling force of the cable to the rocket at a point located on the rocket away from the base of the rocket. It is submitted that claim 15, as amended, is clearly distinguished from and is directed to subject matter which is clearly patentable over the combination of Demole and Ongaro.

Claims 18 - 21, 23 - 25, and 27 are allowable for the same reasons as claim 15 as well as on their own accord. It should be noted that in Ongaro, at no time are the cables (30) or (22)

secured to the missile. As previously discussed, the missile simply rests on the lifting pads. Thus, it cannot be said that Ongaro discloses disconnecting means because the cables are not connected to the missile. For this reason, claim 21 is further allowable.

Contrary to the Examiner's assertion, Figure 4 of Ongaro does not teach that the transferring means (26) is not permanently connected to the rocket. The transferring means (26) consist of lifting pads and protruding sections (62) of the missile simply rest on flanges (32) of the lifting pads (26) (see col. 3, lines 20 - 23). Thus, Ongaro does not disclose means for attaching the transferring means from the missile. It would not therefore be obvious to someone of ordinary skill in the art at the time of the invention to modify Demole with the transferring means of Ongaro because at no time are the transferring means of Ongaro attached to the rocket. For these reasons, claim 25 is allowable.

As regards claim 27, in Ongaro, the lifting pads (26) act on the missile until the pads reach almost to the top of the tower (4). At this point, the arrester coupling (24) comes into contact with the shock arrester (28) which acts to slow down and eventually stop the movement of the loop cable (22), thus preventing the lifting pad (26) from coming into contact with the pulley (10). At this time, the missile (2) is catapulted out of the launching tower (see col. 3, lines 50 -57). Ongaro does not therefore teach the provision of means for moving the transferring means away from the rocket (missile). The transferring means of Ongaro are simply left behind when the missile is launched. Accordingly, it is submitted that claim 27 is distinguished from and is directed to subject matter which is clearly patentable over Demole in view of Ongaro.

With respect to the rejection of claims 22, 26, and 28 under 35 U.S.C. 103(a) as being unpatentable over Demole in view of Ongaro and further in view of U.S. Patent No. 2,941,764 to Lee, the Lee patent does not cure the aforementioned deficiencies of Demole and Ongaro. The explosive bolts in Lee are used to separate the several sections and sub-sections of the aircraft from each other (see col. 2, lines 52 - 54). There is no disclosure in Lee of attaching cables to a rocket. Further, claim 22 is directed to disconnecting the cable from the transferring means and claim 26 is directed to disconnecting the transferring means from the rocket. Since Lee discloses neither a cable nor transferring means, it is submitted that this reference cannot render the subject matter of claims 22 and 26 obvious when taken in combination with Demole and Ongaro. In fact, Lee is totally irrelevant to the claimed subject matter.

Claim 28 is directed to the means for moving the transferring means away from the rocket including an aerodynamic structure located on the transferring means. There is no disclosure of the transferring means in Lee so that it follows that Lee can not teach the provision of an aerodynamic structure on a transferring means since the transferring means is non-existent in Lee. For these reasons, claim 28 is allowable over the combination of Demole, Ongaro, and Lee.

With regard to the objection to claims 23 and 24, the claims have been amended to depend from claim 15.

The objections to the drawings are duly noted. Appropriate drawing corrections are presented herein. Attached are replacement sheets of drawings containing Figures 1-4, Figures 5A - 5C, Figures 6A and 6B, revised Figure 7 and Figure 8. The replacement sheets of drawings contain no new matter. The

Examiner is hereby requested to approve the drawing amendments shown in the replacement sheets of drawings.

In view of the drawing amendments to Figures 5 and 6, paragraphs 0013 and 0014 have been replaced in their entirety.

For the foregoing reasons, the instant application is believed to be in condition for allowance. Such allowance is respectfully solicited.

Should the Examiner believe an additional amendment is needed to place the case in condition for allowance, the Examiner is hereby invited to contact Applicant's attorney at the telephone number listed below.

A request for a two month extension of time is enclosed herewith. The Director is hereby authorized to charge the extension of time fee of \$245.00 to Deposit Account No. 02-0184.

If any additional fees are required in connection with this case, it is respectfully requested that they be charged to Deposit Account No. 02-0184.

Respectfully submitted,

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